

Application No.: 10/630072
Amendment dated: September 9, 2004
Reply to Office action of March 9, 2004

AMENDMENT TO ABSTRACT

Changes to the abstract are shown in the annotated version below, and incorporated into the appended clean copy of the abstract. The term "preferably" has been deleted as has the reference to purported merits of the invention compared to the prior art. Other changes have been made in the interest of clarification and simplification.

ABSTRACT OF THE DISCLOSURE

An analytical apparatus, such as a quartz crystal microbalance, comprising comprises a piezoelectric sensor and an oscillator circuit, coupled to the sensor, to oscillate at a frequency substantially determined by a resonant frequency of the sensor, and to provide an output signal at the oscillator frequency at an output, the . The oscillator circuit incorporates means to maintain maintains a substantially constant drive signal to the piezoelectric sensor. Preferably, the substantially constant drive signal is maintained by an AGC means (33) within a feedback loop of the oscillator. Advantageously the The gain control signal is used as an indication of the Q of the piezoelectric sensor. It is desirable that the The drive signal to the sensor is made substantially sinusoidal since this provides greater accuracy, sensitivity and stability for the apparatus. This can be achieved by ensuring that all the elements in the feedback loop providing signal gain and attenuation are configured to operate in a substantially linear mode.